

Effect of Different Wind Forcings on a Simple Barotropic Ocean Model's Ability to fit Topex and Bottom Pressure Data.

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In previous work (Hirose et al., 2000) we optimized the configuration of a barotropic ocean model to dealias altimetry from the effect of the ocean response to wind and pressure at periods shorter than 20 days. In that work, the effects of friction, bottom topography and no-slip conditions were optimized to match data. In this work we focus on the effect of various wind products: NCEP and ECMWF, 1000mbar or 10m, wind converted to stress through the Kondo or other parameterizations, or windstress directly from the atmospheric model. There is considerable interest in using NCEP over ECMWF due to the difficulty in obtaining ECMWF in near-real time in the US. Preliminary results for 1993 show that 1000 mb NCEP reanalysis winds give superior results than 10m NCEP reanalysis winds in terms of fit to Topex and bottom pressure data. Comparisons among all wind products are underway and will be discussed in detail. Current results also show that removing the diurnal and semidiurnal tidal peaks, caused by thermal forcing in the atmosphere, from the wind and pressure data (rather than from the model output) improves the fit to the Topex data.